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| APPLICATION NO. | FILING DATE | FIRST NAMED INVENTOR | ATTORNEY DOCKET NO. | CONFIRMATION NO. |
|---|-------------|----------------------|--------------------------|------------------------|
| 10/799,322 | 03/12/2004 | Elias Jonsson | 4015-5191 | 8194 |
| 24112 | 7590 | 11/25/2008 | | |
| COATS & BENNETT, PLLC 1400 Crescent Green, Suite 300 Cary, NC 27518 | | | EXAMINER FLORES, LEON | |
| | | | ART UNIT 2611 | PAPER NUMBER |
| | | | MAIL DATE 11/25/2008 | DELIVERY MODE PAPER |

Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

| | | | |
|--|--|---|--|
| <p align="center">Advisory Action Before the Filing of an Appeal Brief</p> | <p>Application No. 10/799,322</p> | <p>Applicant(s) JONSSON, ELIAS</p> | |
| | <p>Examiner LEON FLORES</p> | <p>Art Unit 2611</p> | |

--The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

THE REPLY FILED 17 November 2008 FAILS TO PLACE THIS APPLICATION IN CONDITION FOR ALLOWANCE.

1. ☒ The reply was filed after a final rejection, but prior to or on the same day as filing a Notice of Appeal. To avoid abandonment of this application, applicant must timely file one of the following replies: (1) an amendment, affidavit, or other evidence, which places the application in condition for allowance; (2) a Notice of Appeal (with appeal fee) in compliance with 37 CFR 41.31; or (3) a Request for Continued Examination (RCE) in compliance with 37 CFR 1.114. The reply must be filed within one of the following time periods:

- a) ☐ The period for reply expires _____ months from the mailing date of the final rejection.
- b) ☒ The period for reply expires on: (1) the mailing date of this Advisory Action, or (2) the date set forth in the final rejection, whichever is later. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the mailing date of the final rejection.

Examiner Note: If box 1 is checked, check either box (a) or (b). ONLY CHECK BOX (b) WHEN THE FIRST REPLY WAS FILED WITHIN TWO MONTHS OF THE FINAL REJECTION. See MPEP 706.07(f).

Extensions of time may be obtained under 37 CFR 1.136(a). The date on which the petition under 37 CFR 1.136(a) and the appropriate extension fee have been filed is the date for purposes of determining the period of extension and the corresponding amount of the fee. The appropriate extension fee under 37 CFR 1.17(a) is calculated from: (1) the expiration date of the shortened statutory period for reply originally set in the final Office action; or (2) as set forth in (b) above, if checked. Any reply received by the Office later than three months after the mailing date of the final rejection, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

NOTICE OF APPEAL

2. ☐ The Notice of Appeal was filed on _____. A brief in compliance with 37 CFR 41.37 must be filed within two months of the date of filing the Notice of Appeal (37 CFR 41.37(a)), or any extension thereof (37 CFR 41.37(e)), to avoid dismissal of the appeal. Since a Notice of Appeal has been filed, any reply must be filed within the time period set forth in 37 CFR 41.37(a).

AMENDMENTS

3. ☐ The proposed amendment(s) filed after a final rejection, but prior to the date of filing a brief, will not be entered because
- (a) ☐ They raise new issues that would require further consideration and/or search (see NOTE below);
- (b) ☐ They raise the issue of new matter (see NOTE below);
- (c) ☐ They are not deemed to place the application in better form for appeal by materially reducing or simplifying the issues for appeal; and/or
- (d) ☐ They present additional claims without canceling a corresponding number of finally rejected claims.

NOTE: _____. (See 37 CFR 1.116 and 41.33(a)).

4. ☐ The amendments are not in compliance with 37 CFR 1.121. See attached Notice of Non-Compliant Amendment (PTOL-324).
5. ☐ Applicant's reply has overcome the following rejection(s): _____.
6. ☐ Newly proposed or amended claim(s) _____ would be allowable if submitted in a separate, timely filed amendment canceling the non-allowable claim(s).
7. ☒ For purposes of appeal, the proposed amendment(s): a) ☒ will not be entered, or b) ☐ will be entered and an explanation of how the new or amended claims would be rejected is provided below or appended.
- The status of the claim(s) is (or will be) as follows:
- Claim(s) allowed: None.
- Claim(s) objected to: 10,25 and 39.
- Claim(s) rejected: 1-9,11-24 and 26-47.
- Claim(s) withdrawn from consideration: _____.

AFFIDAVIT OR OTHER EVIDENCE

8. ☐ The affidavit or other evidence filed after a final action, but before or on the date of filing a Notice of Appeal will not be entered because applicant failed to provide a showing of good and sufficient reasons why the affidavit or other evidence is necessary and was not earlier presented. See 37 CFR 1.116(e).
9. ☐ The affidavit or other evidence filed after the date of filing a Notice of Appeal, but prior to the date of filing a brief, will not be entered because the affidavit or other evidence failed to overcome all rejections under appeal and/or appellant fails to provide a showing a good and sufficient reasons why it is necessary and was not earlier presented. See 37 CFR 41.33(d)(1).
10. ☐ The affidavit or other evidence is entered. An explanation of the status of the claims after entry is below or attached.

REQUEST FOR RECONSIDERATION/OTHER

11. ☒ The request for reconsideration has been considered but does NOT place the application in condition for allowance because:
See continuation sheet.
12. ☐ Note the attached Information *Disclosure Statement*(s). (PTO/SB/08) Paper No(s). _____
13. ☐ Other: _____.

/David C. Payne/
Supervisory Patent Examiner, Art Unit 2611

Applicant asserts that "Whether or not Reznik's matrices include scalar values, neither Reznik nor Bottomley teaches or suggests a scalar value that represents characterized or measured inter-symbol interference (ISI) cancellation performance of an ISI cancelling receiver. As a result, it is obvious that neither Reznik nor Bottomley discloses the use of such a scalar value to scale an estimate of inter-symbol interference in a received signal, or the use of such a scaled estimate to in turn estimate received signal quality".

The examiner respectfully disagrees. First of all, the reference of Reznik does suggest the teaching of a scalar value that represents characterized or measured inter-symbol interference (ISI) cancellation performance of the receiver. (See fig. 9: 23 "Matrix A, "Matrix O", "split Matrix O into Matrices T and S" "Matrix S is used to cancel ISI" & fig. 8: 17, 21 & ¶s 40, 50, 67) ISI cancellation performance in the receiver is dependent on Matrix A. And Matrix A, which is used to compute matrix S (the scalar), is computed based on channel estimates calculated at the receiver. Second of all, the reference of Reznik does suggest the use of such a scalar value to scale an estimate of inter-symbol interference in a received signal (See fig. 9: 23, 39 & ¶s 75 & 95), or the use of such a scaled estimate to in turn estimate received signal quality. (See fig. 9: 23, 39, 45 & ¶ 75, 77, 95)

Applicant further asserts that "the present claims do not recite the computation of signal quality from hard or soft decision statistics. Rather, each of the present claims includes a feature directed to the estimation of received signal quality based on a scaled estimate of inter-symbol interference, which in turn is obtained by scaling an estimate of inter-symbol interference with a cancellation metric representing characterized or measured inter-symbol interference cancellation performance of the receiver.

The examiner agrees. However, the purpose of citing this paragraph was to illustrate that the reference of Reznik does suggest the teaching of estimation of received signal quality based on a scaled estimate of inter-symbol interference (See fig. 9: 23, 39, 45 & ¶ 75, 77, 95), and that the concept of estimating the received signal quality based on a scaling an estimate of ISI with a cancellation metric representing characterized or measured ISI cancellation performance of the receiver is not novel.

Applicant further asserts that "Reznik's matrix S is not used to scale an estimate of inter-symbol interference in the received signal, as claimed in the present invention. \tilde{s} is the received symbol, not an estimate of inter-symbol interference. $E(m)$ is a residual interference vector that remains after ISI has been canceled. Neither element is the claimed "estimate of inter-symbol interference in the received signal." Nor is the difference between these elements an estimate of ISI"

The examiner respectfully disagrees. The reference of Reznik does suggest the teaching of scaling an estimate of ISI in the received signal. (See fig. 9: 23, 39 & ¶ 75, 95 "element 23 may be used as an alternative embodiment wherein the present invention delegates the ISI cancellation to element 39")

Applicant finally asserts that "matrix S is an input to the cancellation performance of the receiver. Of course, this is effectively the opposite of what the present claims recite: a value that represents characterized or measured ISI cancellation performance of the receiver, i.e., a metric related to the output of the cancellation process".

The examiner respectfully disagrees. The reference of Reznik does suggest the teaching of a scalar value that represents characterized or measured ISI cancellation performance of the receiver. (See fig. 9: 23 & ¶s 75 & 95) The purpose of Matrix S is to cancel ISI in the receiver. In order for Matrix S to achieve this cancellation, matrix S has to have some knowledge of the ISI of the receiver. However, taking the contrary, applicant, at any point, claims that the metric is related to the output of the cancellation process.